

## FRONT & BACK PANEL

### FRONT PANEL

1. Input button  
You can choose the input source by pushing this button (USB,D1/COAX and,D2/OPT)
2. Output button  
You can choose output device by pushing this button (Headphone, Line Out, Variable Line Out and Balanced Out)
3. Volume knob  
You can control the volume.
4. Phones  
You can connect headphones jack.

### BACK PANEL

1. Var Out  
Line out to connect with other power amplifier. Output volume can be controlled by NF DAC.
2. Out  
Line out to connect with other power amplifier. Output volume can't be controlled by NF DAC.
3. Balanced Output  
You can get balanced output with XLR connector.
4. D1  
Connect with the equipment which has coaxial digital audio output. Can be connected with digital RCA cable. Audio RCA cable shouldn't be used.

5. D2  
This Input is for connection with equipment which has optical digital audio output.
6. USB  
This USB Input can be connected to PC directly. Please do not use external USB hub but connect product to USB port of PC directly.
7. DC 12V  
Please use the adapter enclosed in the packing box only.

### TECHNICAL SPECIFICATION

#### DA Converter:

TI (Burr Brown), 24bit/192KHz

#### Digital Input Sampling Frequency:

USB: 44.1/48/88.2/96/176.4/192KHz

Digital Input: 20KHz to 216KHz

Frequency Response: DC to 20KHz

**THD at 1KHz:** <0.001% by Design

**S/N Ratio:** >120dB by Design

(A Weighting)

**Jitter:** < 100ps by Design (ASR)

**Line Out Level:** 2.7V RMS max

600 Ohm Load

**Headphone Output Level:**

Max 3.6V rms in 600 Ohm or

0.5V rms in 32 Ohm

Z out=25 Ohm

**Power Consumption:** < 5 Watts

## WARRANTY CARD

Product Name: DA Converter

Model Name: Lead Audio NF DAC

Purchase Date:

Dealer:

- Warranty period of this product is two years.
- This product was manufactured under severe quality control and inspection process.
- This product passed EMC test and certification for home use device.
- The warranty is only valid if, when warranty service is required, the warranty card is fully and properly completed with the original invoice or receipt or confirmation, and the serial number on the product has not been defaced.
- Lead Audio's obligations are limited to the repair or, at its discretion, replacement of the product or the defective part.
- The products should be delivered to authorized Lead Audio dealers or authorized service centers by purchaser when repair or replacement is required.
- Warranty repairs must be carried out by authorized Lead Audio dealers or authorized service centers.
- No re-imbusement will be made for repairs carried out by non Lead Audio dealers and, any such repair work and damage to the products caused by such repair work will not be covered by this warranty.
- This product is not considered to be defective in materials nor workmanship by reason that it requires adaptation in order to conform to national or local technical or safety standards in force in any Country other than the one for which the product was originally designed and manufactured.
- The Warranty period starts from the invoice date or 2 months after production date which is recorded in central system of Lead Audio if purchaser can't provide a valid invoice.

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# NORTHERN FIDELITY

Digital to Analog Converter  
Model : Lead Audio NF DAC

ENGLISH MANUAL  
www.lead-audio.com

## MESSAGE FROM THE MANUFACTURER

Thank you for purchasing NF DAC of Lead Audio. NF DAC is the third generation of DAC(Digital to Analog Converter) plus Headphone Amp introduced by Lead Audio with 24 Bit and 192 KHz of Sample Rate. NF DAC succeeded the design fundamentals of LA-100 but upgraded its features and quality for the Lead Audio customers who have always encouraged, urged and waited for the next generation of DAC. However, it is not only for the users who already know the beauty of Lead Audio's sound but also for the new users who are ready to explore the new tone and timbre. Please take a look at the main features as follows and then enjoy original sound with help of NF DAC.

## MAIN FEATURES

- High performance of Audio components used for expensive Hifi instruments (PCM 1796 DA Converter from TI (Burr Brown) and Wima Condenser)
- 1 ppm of TCXO used for high precision of broadcasting equipment. (NF DAC realizes Low Noise Master Clock with top-class of 1 ppm TCXO adaptation which has been used only for broadcasting equipment and uses double multiplication of frequency to secure 50% of Duty of Master clock. It fundamentally removes Jitter and Noise from the Clock so that the reproduction of the original sound becomes more substantial)
- Adaptation of special noise reduction technology know-how with Collpitz Oscillator and 2 steps buffering clock.
- Adaptation of Sample rate converting technology used for top-class of Hifi Audio to remove Jitter noise which is fatal to sound quality.
- Adaptation of DC Coupled circuit for the high quality of sound which fundamentally eliminates the degradation of the sound quality from the usage of capacitor.

## CONNECTION AND OPERATION

First, please connect the provided adapter with DC input jack on the back panel.

### □ CONNECT WITH PC

Switch ON the power on the front panel after connecting PC and NF DAC with USB cable enclosed in the packing box. Please don't use USB Hub but connect PC and NF directly to get the best sound quality. Operate Input key on the front panel and confirm USB LED is ON. To make operation by PC, X-MOS driver should be installed. Please find setup file in the directory of the installation CD and click the file to start installation process. After installation of the driver, please select X-MOS XS1-L1 Audio as a default speaker in the Sound and Audio equipment controller in PC control panel.

### □ CONNECT WITH DVD PLAYER

Connect Output socket (Coax Out / Optical Out) of a DVD player with the matched socket (D1 or D2) on the back panel of NF DAC with the appropriate cable. Operate Input key on the front panel and confirm D1 or D2 LED is ON. (Cable is not enclosed. Please contact a dealer to purchase appropriate cable suit to your favorite)  
Please set the Output of DVD Player with 2 Channel PCM. NF DAC doesn't support Dolby Digital 5.1 or DTS.

### □ CONNECT WITH CD PLAYER

Connect Output socket (Coax Out / Optical Out) of a CD player with the matched socket (D1 or D2) on the back panel of NF DAC with the appropriate cable. Operate Input key on the front panel and confirm D1 or D2 LED is ON. (Cable is not enclosed. Please contact a dealer to purchase appropriate cable suit to your favorite)

### □ CONNECT WITH AMPLIFIER

Connect Var-out or Out on the back panel of NF DAC with RCA Input (Line-in) of Amplifier with the appropriate cable. Operate Output key on the front panel and confirm Var-out or Out LED is ON. (Cable is not enclosed. Please contact a dealer to purchase appropriate cable suit to your favorite).  
Var-out is a variable output and the Volume control is available by the Volume knob of the front panel and by the Remote controller. Out is a fixed output and the Volume control is available by Remote controller.

### □ CONNECT WITH HEADPHONE

Connect the Headphone terminal to the phone jack of front panel. Operate Output key on the front panel and confirm Phone LED is ON.



## SAFETY AND CAUTION FOR OPERATION

**Do not** expose the product in water or in to dense humidity, there is a risk of getting an electric shock or a start of fire.

**Do not** remove the cover, it may cause wrong operation and break.

User repair parts are **not enclosed**. Please ask for service to experts.

**Do not** use the product near water

**Do not** cover the air circulation holes.

**Do not** install the product near heating sources such as heaters, stoves and fireplaces.

**Do not** use non-approved parts.

**Pull out** the power plug when the product is unused for a long time.

**Contact** the A/S if the power plug is damaged, any liquid entered the product, exposed to rain or humidity, does not work properly, or if damaged in any other way.

**Please only use** power adapter enclosed in packing box.

**Please take** all the safety tips cautiously.

**Please use** the adapter enclosed in the packing box only.